

AMENDMENTS TO THE CLAIMS

1 (Currently Amended). A process for a continuous production of an ϵ -caprolactone polymer, which comprises ~~characterized by comprising:~~

heating an ϵ -caprolactone polymer under reduced pressure or in an inert gas stream to volatilize unreacted ϵ -caprolactone from the polymer; and

cooling a vapor phase part containing a matter volatilized to thereby recover the unreacted ϵ -caprolactone,

wherein the amount of ϵ -caprolactone to be recovered is regulated to larger than 5 times by weight relative to the amount of caprolactone dimer, and

wherein the ϵ -caprolactone polymer is a copolymer of a polymer having a hydroxyl group and/or an ester bond and ϵ -caprolactone.

2. (Original) A process for a continuous production of an ϵ -caprolactone polymer according to claim 1, wherein the amount of ϵ -caprolactone to be recovered is regulated to equal to or larger than 10 times by weight relative to the amount of caprolactone dimer.

3. (Original) A process for a continuous production of an ϵ -caprolactone polymer according to claim 1 or 2, wherein the step of cooling the vapor phase part to recover unreacted ϵ -caprolactone includes a recovering step in which the temperature is regulated within 20 to 65°C. and an optional recovering step in which the temperature is regulated within -2 to 30°C.

4. (Cancelled)

5. (Currently Amended) A process for a continuous production of an ϵ -caprolactone polymer according to ~~claim 4~~ claim 1, wherein the polymer having a hydroxyl group and/or an ester bond is a polyester.

6. (Currently Amended) A process for a continuous production of an ϵ -caprolactone polymer according to claim 1 ~~any one of claims 1 to 5, which further comprises~~ characterized by further comprising a ring-opening polymerization step of ϵ -caprolactone as a preceding step.

7. (Currently Amended) A process for a continuous production of an ϵ -caprolactone polymer, which comprises ~~characterized by comprising~~:

a polymerization step for performing a ring-opening polymerization of ϵ -caprolactone singly or with a polymer having a hydroxyl group and/or an ester bond ~~other compound~~;

a monomer-removing step which includes heating an ϵ -caprolactone polymer under reduced pressure or in an inert gas stream in a treatment apparatus (1) to volatilize a matter to be volatilized containing ϵ -caprolactone and caprolactone dimer from the polymer; and

a recovering step which includes cooling a vapor phase part containing a matter volatilized in a recovering apparatus (3) to recover ϵ -caprolactone as a liquid, wherein:

(i) the cooling temperature is regulated;

(ii) the polymerization condition is regulated; and/or

(iii) ϵ -caprolactone is added to the treatment apparatus (1) and/or the recovering apparatus (3)

so that the amount of ϵ -caprolactone to be recovered is regulated to larger than 5 times by weight relative to the amount of caprolactone dimer to prevent clogging in the recovering step.

8. (Original) A process for a continuous production of an ϵ -caprolactone polymer according to claim 7, wherein the cooling temperature is 20 to 65°C.

9. (Original) A process for a continuous production of an ϵ -caprolactone polymer according to claim 7 or 8, wherein the heating temperature for the ϵ -caprolactone polymer in the monomer-removing step is 120 to 300°C.